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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,887	10/31/2003	Kwang-Wook Kim	0630-1864P	9001
2292	7590	12/09/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			KRISHNAMURTHY, RAMESH	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/697,887

Applicant(s)

KIM ET AL.

Examiner

Ramesh Krishnamurthy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/14/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

This office action is responsive to communications filed 03/14/2005.

Claims 1 – 20 are pending.

1. The following suggestions are offered to the applicant to place the claims in better form: In claim 6, it is suggested that the following be deleted from the claim: "214" in line 4 and "S1" in line 5.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 6, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 75 13 261.

The document DE '261 discloses a discharging valve assembly for a reciprocating compressor comprising:

A discharge cover (4) coupled with a front frame (1) (it is noted that the limitation "so as to cover a cylinder in which a piston is inserted" is functional in nature and also the limitation is considered to be inherent to the disclosure of DE '261 as it pertains to a reciprocating compressor);

A discharging valve (2) is inserted in the discharging cover; An unbalancedly and elastically supporting means comprising a spring (3) that is supported on one side by a sloping surface of a sloping inner side surface of the discharging cover and its other side being connected to the discharging valve (2). The angle of the sloping surface α is seen (Fig. 1) to be greater than four degrees. A side of the spring with greater elastic

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stiffness is positioned at a sloping surface side (near (5) in Fig. 1) having the nearest distance to the contact surface of the cylinder (near (1)) and the side of the spring with lesser elastic stiffness is positioned at a sloping surface having the furthest distance from the contact surface of the cylinder.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 11 – 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 75 13 261.

Regarding claim 12, it is noted that providing a sloping surface on the discharging valve as opposed to having it on the cover, is a mere reversal of parts and the courts have generally held that reversal of parts is an expedient that is obvious to one of ordinary skill in the art. *In re Gazda*, 219 F.2d 449, 104 USPQ 400 (CCPA

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1955). In the instant case, such a reversal would not change the operation of the DE '261 device since the spring force on the valve member (2) would still remain unbalanced as before.

Regarding claims 11 and 20, it is noted that the specific choice of a conical spring is a design expedient over those features disclosed in the DE '261 document in that it neither solves any stated problem nor provided any new and/or unexpected result.

7. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 75 13 261 as applied to claims 1 – 6, 8 and 10 above, and further in view of Lee et al. (US 2002/0150488A1).

The document DE '261 discloses the claimed invention with the exception of explicitly disclosing a rotation prevention protrusion disposed on the sloping surface.

Lee et al. discloses (Figs, 11 A, B for example) a protrusion disposed on the inner surface of the cover for the purpose of securing the spring so as to prevent rotation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in DE '261 a protrusion disposed on the inner surface of the cover for the purpose of securing the spring so as to prevent rotation as evident from Lee et al..

8. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 75 13 261 as applied to claims 1 – 6, 8 and 10 above, and further in view of the Applicant Admitted Prior art (APA).

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The document DE '261 discloses the claimed invention with the exception of explicitly disclosing a discharging hole to be formed on one side of the discharging cover.

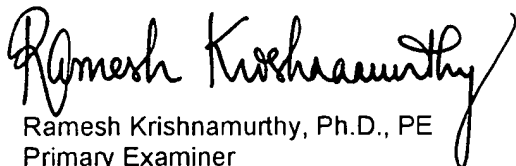
In document DE '261 the discharging hole is disposed on the sloping surface. In APA as in Figs. 1 – 4 of the instant disclosure, the discharging hole is located on one side of the discharging cover. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in DE '261 a discharging hole on side of the cover for the purpose of achieving a desired flow therethrough as evident from APA (Figs. 1 – 4 of the instant disclosure).

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen L. Blau, can be reached on (571) 272 – 4406. The fax phone number for the organization where this application or proceeding is assigned is (571) 273 – 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramesh Krishnamurthy, Ph.D., PE
Primary Examiner
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